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Worldwide Report

ENVIRONMENTAL QUALITY

No. 330

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WORLDWIDE REPORT ENVIRONMENTAL QUALITY

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SWEDISH STUDY SHOWS DECLINE IN BALTIC SEA DDT LEVELS

Stockholm SVENSKA DAGBLADET in Swedish 21 Oct 81 p 6

[Article by Lennart Lundegårdh]

[Text] For the first time analyses have now been made that with statistical certainty prove that the DDT level of the Baltic Sea has declined drastically during the past few years. There is a similar, but weaker, tendency for the environmental poison PCB, according to SVENSKA DAGBLADET.

Such results have been obtained from analyses made on herring (caught at the Gavle Bay and outside the city of Karlskrona) and analyses of guillemot eggs from Stora Karlsö.

The material has been collected by the Swedish Museum of Natural History with museum keeper Mats Olsson as the leader of the project. The chemical analyses are handled by the National Environment Protection Board.

Birds' Eggs Focus of Study

The birds' eggs have proved to be especially useful. The guillemot feeds on fish and it reflects the changes that take place even better than the fish.

The decline is noticeable after 1973. Until then the DDT-levels were at about the same level in the guillemot eggs. It amounted to about 600 mg/kg. In 1980 the average figure had declined to about 200 mg/kg, which thus is a decrease by two-thirds.

Regarding PCB there was instead a slight increase in the level in the birds' eggs until 1975. Thereafter the graph goes from about 350 mg/kg to about 200 mg/kg in 1977, after which the decline has been slower.

The herring material also shows a significant decline in the DDT-levels, but it is actually not possible to read the same for PCB.

"This may have many reasons. We do not know with certainty. But the analyses show that fish may be hard to use as test object, says Mats Olsson. The birds provide more clear-cut information, but we will still have to keep the herring as a good complement."

"An estimate of the average quotient of the DDT-levels and PCB in both herring and guillemots actually show that there was a short-term increase in the PCB-levels in 1973. This supports the probability of the graph that shows an actual decline in the PCB-levels thereafter," says Lars Reutergardh. The 1981 material has not yet been analyzed. The scientists are eagerly awaiting the results. There will be serious disappointment if the graphs go upward again.

The Situation for Eagles Improved

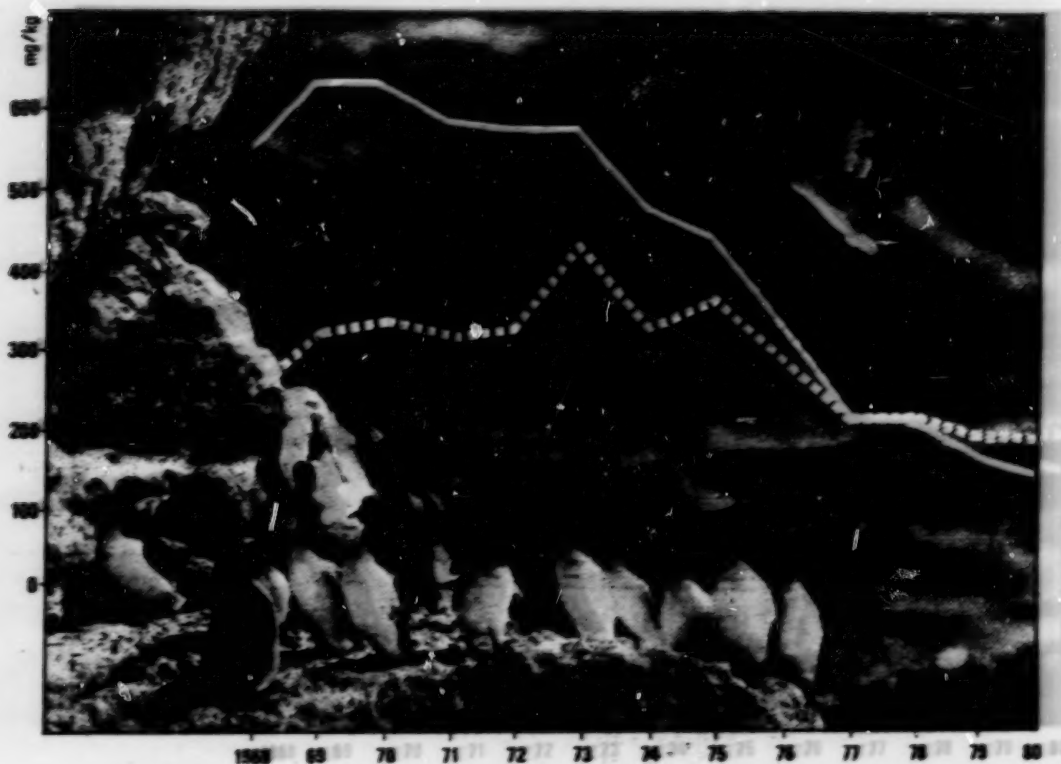
"We will be able to follow the continued development of the Baltic Sea, because these tests have been incorporated into the program for the monitoring of environmental quality (PMK), which is administered by the National Environment Protection Board," says Mats Olsson.

"The results that we are now able to present regarding the DDT decline probably mean that the situation of certain species of birds, for example the bald eagle, has already improved. Measurements of the shell thickness of guillemot eggs will provide further information, since it is known that DDT affects the egg shells.

If the tendency of declining PCB-levels continues there will be a brighter future also for the seals, but that will take a longer time.

"The old seals probably eliminate the PCB from their bodies very slowly and the females, whose reproductive organs have already been destroyed by the substance, cannot be saved, says Mats Olsson. Our hopes are with the seals that are now born."

The Baltic Sea, notorious for being heavily polluted, may be on its way, anyway, toward recovery from a couple of the worst substances known. But there might be other substances that the scientists have not yet found.



This is how the DDT-level (solid line) and the PCB-level (broken line) have developed in the eggs of the guillemots of Stora Karlsö in 1968 - 1980. Notice the decline after 1973 - 1975. Photograph: Staffan Tragardh.

9662

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BRIEFS

BALTIC SEALS PROTECTION URGED—The seals of the Baltic and the Cattegat ought to be protected. Seal sanctuaries should be formed and the research about seals should become intensified. This is proposed by a work committee within the Nordic Council of Ministers in a letter to the governments of the Nordic countries. The Council has a special recommendation directed to Sweden and Finland. It concerns the investigation of the possibility to create a seal sanctuary in the Sea of Aland as soon as possible. The Nordic Council of Ministers also wants the Nordic countries to initiate negotiations with other countries regarding the protection of seals within the framework of the Gdansk and Helsinki pacts. [Text] [Stockholm SVENSKA DAGBLADET in Swedish 21 Oct 81 p 6] 9662

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SCIENTISTS NOTE HEALTH HAZARDS OF HOT SPRINGS

Calcutta THE STATESMAN in English 28 Oct 11 p 9

[Text]

NEW DELHI, Oct. 27.—The hot water springs in different parts of the country pose a health hazard to bathers? Some of them certainly do, because their waters are highly radioactive, according to two scientists of Bombay's Bhabha Atomic Research Centre.

The thermal springs at Tuwa, near Godhra in Gujarat, are radioactive, say the scientists. The scientists, Mr U. C. Mehta and Mr I. K. Joshi, who belong to Bhabha's air monitoring section and who have conducted extensive studies at Tuwa, say that the Tuwa springs contain high levels of radioactivity and could well prove harmful to the people bathing in it, besides posing environmental radiological hazards.

The water is not suitable for drinking or bathing and the springs should not be used as a spa, they say categorically in an article published in a journal of the Department of Atomic Energy.

There are hot springs also at Unnai and Laxendra in Gujarat, Sonna in Haryana, Bakreshwar in West Bengal, Tantol and Rajgle in Bihar, Manikaran in the Kulu Valley, Vajreshwari in Maharashtra and at several other places in the country.

The two Bhabha scientists say that the hot springs of Unnai and Laxendra exhibit amounts of radioactivity which are slightly higher than normal, although much less than that at Tuwa, in the same State.

Other popular hot springs in the country—especially at Rajgle, Tantol, Sonna and Bakreshwar—have, according to them, been found to be radioactive and contain Radium-226 and Radium-228.

Their study is being undertaken as part of an environmental radiological protection programme, the scientists say.

Mr Mehta and Mr Joshi, whose study so far relates primarily to the hot springs in the Tuwa region in Gujarat, say that these unquestionably exhibit abnormal radioactivity.

The dose rate cannot still be considered alarming since the bathers may be staying in the area only for a short duration and may not receive continuous radiation exposure at high level. "However, any exposure level higher than the maximum permissible should be avoided", the scientists caution. The Radium spring, which is the biggest, is used by the people for bathing.

The scientists note that the Tuwa inhabitants are also subjected to increased natural radiation owing to the thermal springs which discharge large quantities of water every day. It is known that inhalation of radon gas (Rn-222), which is present in the atmosphere of Tuwa and of airborne radium (Ra-226) "can give rise to lung cancer".

An equally interesting conclusion of the two scientists is that it is likely that there is an uranium deposit nearby. No measurable amount of thorium or uranium has been found in these springs. But they have high concentrations of Radium-222 and Radium-226, which are the "daughter products" of the Uranium-238 series. The radioactivity in the region is due entirely to these. Hence the scientists' speculation that uranium deposits must be present in the neighbouring region.

DELHI CONCERNED OVER DRINKING WATER PROBLEMS

Bombay THE TIMES OF INDIA in English 16 Oct 81 p 13

[Text]

NEW DELHI, October 15 (UNI).

THE Centre has taken a serious view of the tardy and unsatisfactory implementation of the drinking water scheme for problem villages and has directed the states to exercise proper control over allocation of funds.

The total number of problem villages is estimated 190,000. By the end of the sixth plan it is proposed to provide safe drinking water to all these villages, with the exception of those in difficult hilly and desert regions. The sixth plan provides for an outlay of Rs. 1,407 crores in the state sector and Rs. 600 crores in the Central plan.

It is expected that 12,000 problem villages would have been provided with potable drinking water during 1980-81. In the current financial year, 36,000 more problem villages are to be covered.

A recent Central study has revealed that the programme is not being implemented as the desired pace mainly due to three reasons.

First, the criterion for determining problem villages is frequently revised by the states. The planning commission has categorised problem villages as those which do not have an assured drinking water source within 1.6 km, those where the sources of

supply are endemic to water-borne diseases, and those where water suffers from excess salinity, lime or fluoridation or other toxic elements hazardous to health.

STATED INEFFICIENCY

Secondly, funds are not being properly utilised. According to the study, the allocation of wells is not being done on the basis of actual local requirements. For instance, in one state it was noticed that 41 wells had been dug in a district which does not have acute water problem while only ten wells were dug in a chronically drought-hit district abounding in problem villages.

Thirdly, in most states influential farmers manipulate allocation of wells in their favour and the poorer sections are not getting the attention they deserve.

An earlier study conducted by the programme evaluation organisation (PEO) of the planning commission shows that in the past the scheduled castes and weaker sections have not gained proportionately from the safe drinking water supply scheme.

The Centre has impressed upon the state governments the need to locate safe drinking water points in such a manner that these communities can benefit fully.

INSTITUTE STUDIES PROBLEMS OF HOT ARID ZONES

Madras THE HINDU in English 2 Nov 81 p 8

[Article by B. S. Padmanabhan]

[Text]

IN five years you will see Rajasthan become popular not only all over India but also abroad. There is so much potential here to grow and export it after processing", claimed a progressive farmer, Nand Kishore Jaisimani, when a party of pressmen recently visited his orchard on the outskirts of Jodhpur.

It may sound a tall claim, because for miles and miles around his orchard one can see only sandy land with no vegetation except shrubs here and there but it reflects the extent to which the scientists of the Central Arid Zone Research Institute at Jodhpur have been able to create confidence among the farmers on the prospects of making the desert bloom. However, talking to the scientists of CAZRI, one finds that they have still a long way to go to achieve their goal, as the transfer of technology from lab to land is yet to pick up the desired speed.

Research on arid land

The Institute has to its credit three decades of research work on the problems of desertification and arid zones. Initially, it was set up as a desert afforestation research station and later its scope was enlarged to cover soil conservation work. Subsequently, in 1959 it was reorganised into a full-fledged institute for development of arid zones and combating the spread of desert. If the Thar desert is said to be one of the best-studied deserts of the world, it is in no small measure due to the efforts of CAZRI, which has the largest data-base on arid land.

The importance of CAZRI can be seen from the fact that the arid zone covers about 12 per cent of the country's total geographical area and occupies over 3.2 lakh square kilometres of hot desert located in Rajasthan, Gujarat, Punjab, Haryana, An-

dhra Pradesh and Karnataka.

The hot arid zone has a population of 20 million people and 23 million livestock. The huge population is itself the main problem of arid and semi-arid zones because it leads to over-exploitation of the scarce natural resources resulting in ecological imbalance.

Population density

According to CAZRI scientists, the Indian desert is one of the most thickly populated deserts of the world and in the light of the resources available, the population density of 145 persons per square kilometre is considered quite high. In the arid parts like those of Rajasthan, the population density is 48 persons per square kilometre, compared to three per square kilometre in most other deserts of the world.

Moreover, it has been found that fertility of the human population in the desert is more than that in the adjoining areas. Over two-thirds of the population in the desert area are non-workers, indicating a high percentage of dependency. A majority of the workers are tied to traditional agriculture depending upon rainfed crops and as such they are employed mainly during the kharif season of four months in a year. Another demographic feature is the huge concentration of population in the lower age groups, indicative of the high future growth potential of the population in the region.

Along with the rise in the human population, the livestock population too is on the increase in the desert areas. From 9.4 million in 1951, it has gone up to 15.5 million in 1972. The density of livestock has risen from 72 per hectare in 1951 to 175 per hectare in 1971. The result has been over-use of the grazing land and depletion of natural vegetation resources.

Grazing land reduced

It has been found that the negative

socio-economic effects of the fast growing population on the region, combined with harsh agro-climatic conditions, affect adversely the natural resources. More and more marginal land is being brought under the plough, reducing the area of grazing land, trees and shrubs.

In western Rajasthan, the cultivation on marginal lands has increased by 53 per cent and pasture lands decreased by 22 per cent between 1951 and 1971. The increase in rainfed farming on marginal lands has not only resulted in decline in crop productivity per unit area, but also enhanced soil erosion, degraded soil fertility and led to over-exploitation of ground waters. The CAZRI's efforts are to be viewed against this background.

Exotic species

Studies by CAZRI have shown that about 25 per cent of the area now under cultivation should be brought under cover of grass and trees. Since the local tree species have been found to be not only few in number but also extremely slow growing, CAZRI focused its efforts on the introduction of exotic fast-growing tree and shrub species from iso-climatic regions of the world.

About 200 exotic species from various countries like Mexico, the U.S., Latin America, the USSR, Africa, Israel and West Asia were introduced. Of these, the species *Acacia Tortilis* (Israeli Babool) has been found to be the best fuel cum fodder species for dry zones. This species has been planted not only in West Rajasthan but in other States as well, including Tamil Nadu, Andhra Pradesh and Karnataka.

Similarly, seeds and seedlings of *eucalyptus camaldulensis* supplied by CAZRI, have been taken by the Andhra Pradesh Forest Corporation and recently the Tamil Nadu Agricultural University has shown interest in it.

Another significant contribution of CAZRI lies in tapping the horticultural potentialities of the arid zone. Ber is one of the main fruit plants of the region and CAZRI scientists have developed the technology to cut short the time required to raise a ber orchard from the normal one year to just four months.

The grafted plants of improved varieties are raised in polythene tube. To make it popular, a programme of budding of two improved varieties on the root stock of the common local bush has been undertaken, which is said to have generated considerable interest among the farming community.

Afforestation

For long distance transport of the grafted ber seedlings a device called 'polypack' has been developed. Techniques for making economic products from desert

plants, pasture management, breeding sheep for finer and heavier wool, etc., have also been developed.

CAZRI has also directed its efforts towards control of desertification through afforestation and sand dune stabilisation. Afforestation provides a mechanical obstacle to the free sweep of wind, reducing in the process the wind velocity, soil erosion and evaporation from soil. Sand dune stabilisation is considered an important work as sand dunes with varying frequency are spread over 58 per cent of the arid zone of Rajasthan.

After studying the characteristics of these dunes, suitable techniques have been evolved to remedy the situation. The monitoring of desertification process by CAZRI is reported to have shown that sand dunes and sand sheets occur only as discontinuous patches from the Rann of Kutch to the north eastern part of Haryana and Delhi. According to the CAZRI report, this discounts the theory of transport of sand by wind from the south west and there is no evidence to indicate that the desert is spreading towards the Delhi-Mathura-Agra region.

The question naturally arises to what extent have these techniques found practical application. It is admitted that the diffusion of these technologies among rural masses has been slow. Various methods have been tried and the scientists place great reliance on the Operation Research Projects which involve an integrated approach to the problems of the rural community.

Two ORPs have been taken up by CAZRI, one dealing with arid land management and the other with drip and sprinkler methods of irrigation. The sand dune stabilisation programme seeks to cover more than 2000 hectares of land under sand dune.

Good monetary return

A visit to Dejar village near Jodhpur showed the change brought about by the application of CAZRI technique to one of the lands hit by sand dune. For a number of years this land had been lying fallow and now it has a number of trees of *Acacia tortilis* and *prosopis juliflora* (Vilayati Babool) with grass of 'Dhaman' and 'Swan' species sown in between the rows of trees. Besides checking the sand movement, the plantations will bring in a good monetary return by way of fuel wood and grass.

When we visited this land, its owner was full of gratitude for CAZRI. He could even now fell the trees and make money but he would wait for another year so that the trees would grow further and give him a higher return. In another project near Bikaner, sand dune stabilisation has been attempted in an area where some years ago a tuberculosis sanatorium was buried under sand.

Talking to scientists of CAZRI and the farmers, one finds that there is a wide gap between awareness and adoption of these technologies by the farmers even in the ORP area. Among the many constraints is cited want of money for initial investment on fencing the land, to protect plants from possible damage from animals. CAZRI has sought to overcome this in a limited way. It offers fencing materials to a few and after some time when there is no longer any danger of damage from animals the fence is removed and offered to another.

CSO: 5000/7014

KARNATAKA SOCIAL FORESTRY SCHEME QUESTIONED

Bombay THE TIMES OF INDIA in English 12 Oct 81 p 21

[Text] Bangalore, October 11--Social forestry intended primarily to provide common resources for the basic needs of the population through the creation and regeneration of vegetation everywhere and reduce the destructive pressure on reserved forests is in the news once again.

The Central government has earmarked Rs. 100 crores in the sixth plan to promote social forestry projects throughout the country. Fuel wood plantations will be raised over 260,000 hectares in 100 selected districts, distributing 530 million seedlings.

Mandya, Bellary, Gulbarga, Bangalore and Kolar districts in Karnataka have been identified as locations for a massive social forestry programme. Indeed, the programme has been in existence in the state for some years and has gained considerable momentum. The agricultural refinance and development corporation has already contributed Rs. 2.14 crores through a consortium of 86 banks to the Karnataka forest plantation corporation.

World Bank Aid

On top of this comes a five-year social forestry project submitted by the Karnataka government to the World Bank for financial assistance. The main objectives of the Rs. 60-crore project are to meet the domestic requirements of the rural population regarding fuel wood, small timber, bamboo and fodder, improve the ecological balance, particularly in drier areas and utilise the hitherto unutilised land strips such as road-sides, canal banks, foreshores of tanks, tank-beds and "gornal" land.

A critical analysis of Karnataka's social forestry proposal to the World Bank has now been made by a study team of the Indian Institute of Management, Bangalore, which raises the question whether the "high-sounding" objectives will be achieved, given the present strategy. Instead of special efforts being directed at involving the rural community, in raising and protecting useful species on common and waste land, the thrust is on incentives to farmers to transfer land from food crop cultivation to farm forests.

Again, instead of selecting species on the basis of appropriateness to the needs and purchasing power of the people, the species to which importance has been given

(eucalyptus) is neither materially suited to be integrated in the life-support systems of the rural community nor financially within its reach.

This trend of inappropriate choice of the species seems to be at the centre of political controversies around several other World Bank-aided major forestry projects in other parts of the country. In the Himalayas, the chir pine monoculture and the tropical pine in the Baster region of Madhya Pradesh are viewed by the local people as an "attack" on their local life-support systems. In Gujarat, large food producing areas have gone under eucalyptus cultivation.

That there has been a shift from food crop cultivation to farm forestry has also been clearly established in a study on the social, economic and ecological impact of social forestry in the Kolar district of Karnataka. This is the result of a conscious policy orientation. Such policy decisions within the jurisdiction of the same ministry (food and agriculture), in which the success of the other (agriculture) are an example of "bureaucratic anarchy", says the study team of the Indian Institute of Management. "The right hand does not know what the left hand is doing."

The entire programme of social forestry has emerged as a solution to the mismanagement of conventional forestry, with its commercial thrust and exclusion of the people at large. But the social forestry programme itself appears to be no different. In addition to 15 per cent of the land set aside for timber-growing, 22 per cent of assorted land will be used mostly for growing commercial species.

The contribution of the World Bank project, as the study team puts it caustically, is expected to be marginal at best and destructive at worst. Its basic aim is to satisfy the people's needs and maintain the ecology through the operation of market forces. "These forces, however, are the very ones that led to the erosion of the rural life-support systems".

Social forestry, as practised so far, has not been exactly "social", if Kolar district provides any example. The programme has been in operation in the district for some time. No doubt there is growing consciousness among individual farmers to participate in farm forestry.

In the process, however, a substantial part of the new forest cover has emerged at the cost of food crop cultivation and this shift in land use is found to worsen the conditions of landless agricultural labourers and marginal farmers, both in terms of employment opportunities and availability of food, fodder, fuel and other essential forest produce.

CSO: 5000/7008

PARLEY ON FIGHTING DESERTIFICATION MEETS IN JODHPUR

Opening Session Reported

Madras THE HINDU in English 22 Oct 81 p 9

[Text]

JODHPUR, Oct. 21

A warning against the present rate of denudation of forests was given by the ESCAP Executive Secretary, Mr S. A. Kibria, in a message to the ESCAP regional workshop on "Implementation of a plan of action to combat desertification" here.

The message was read out by Dr. K. F. Jaisi, Chief of the Environmental Unit of ESCAP.

Mr. Kibria regretted that four years after an action plan was adopted to combat desertification, land degradation due to soil erosion, deforestation, water logging and salinity continued unabated.

If the present trend of forest denudation continues, the tropical forests of some of the countries in the region might become extinct before the turn of the century. This will trigger off an energy problem, because of a severe shortage of fuel wood in areas affected

by deforestation", he said.

Mr. Kibria said the total area of arid and semi-arid zones was on the increase in the ESCAP region. An estimated 378 million people in 27 million square kilometres were affected.

The Rajasthan Chief Minister, Mr. Shri Charan Mathur, in his address, said the State had 200,000 square kilometres of arid zone, encompassing three-fifths of the area of the State.

He felt that desert control programmes could not be undertaken by poor countries without international assistance.

He regretted that the World Bank had no specific allocation of funds for anti-desertification projects. He urged international agencies to earmark assistance for such programmes.

Dr. O. P. Gautam, Director-General of ICAR, welcomed the delegates.

Editorial on Denudification

Madras THE HINDU in English 22 Oct 81 p 8

[Editorial: "Rolling Back the Desert"]

Text]

DESERTS AND ARID zones account for 12 per cent of India's geographical area. About 71 per cent of Rajasthan, 20 per cent of Gujarat, 9 per cent of Punjab and Haryana besides small pockets in Maharashtra, Karnataka, Andhra Pradesh and Tamil Nadu belong to that category. Lack of the green cover promotes erosion under the impact of high velocity winds leading to the formation of sand dunes which shift constantly. The Thar desert was once thought to be extending at a steady rate eastward, but the more recent studies emanating from the Central Arid Zone Research Institute do not support this view. The density of population

in Indian deserts is 61 persons per square kilometre against three persons per square km in the typical desert regions in the world outside. In the Indian deserts, particularly in Rajasthan, surface water is extremely limited and most of the well water is saline. Groundwater is also scarce. The total potential is rated at an average discharge ranging between 40,000-70,000 litres per hour, and this is not copious enough for raising a green cover and stabilising it too. Hence the attempt at trying out certain varieties of trees which can stand the endemic aridity, that seems to be the only way of protecting the homesteads in the desert fringe from the ravages of sand storms.

The Desert Development Board has approved schemes relating to minor irrigation, soil conservation, grassland and pasture development in parts of four districts — Mohindergarh in Haryana, Banaskantha in Gujarat and Barmer and Jaisalmer in Rajasthan. The stress is on rehabilitation of forests in hilly areas, raising of fodder banks, reclamation of saline soils, installation of an underground pipeline system and construction of percolation bunds, check dams and tube-wells. There is as yet no official indication of the actual area of desert converted into a green belt as a result of these exercises. Even the latest statement by the Union Agriculture Minister, Rao Bheendra Singh, rests content with the observation that an integrated strategy for controlling the growth of population of human beings and livestock in the desert belt is on the anvil and that a qualitative and quantitative evaluation of desertification will also be made. It is not that desertification is a phenomenon in the arid zones alone. The Konkan strip is a high rainfall area but the denudation of the forest cover makes the region assume a bleak, desert like appearance. Similar results of denudation are witnessed in many other parts of the country and especially in the mountain terrain of the Himalayas and the Deccan peninsula. Rectification of this type of ecological degradation should receive better attention; otherwise, fertile hills will become high altitude deserts with all that it means in terms of depletion of their catchments.

HIMALAYAS FACE PROBLEM OF DENUDATION OF FORESTS

Bombay THE TIMES OF INDIA in English 26, 27 Oct 81

[Commentary by Prem Shankar Jha: "Reforesting the Himalayas"]

[26 Oct 81 p 8]

[Text] I—Causes of Denudation

FOR those Indians in their middle years, who fell in love with the Himalayas in the first blush of their youth, to return to them now is a harrowing experience. Where once there were verdant forests of deodar, blue pine, fir and spruce, tenacious Himalayan oak and quick growing *chir*, there are now only bare hillsides, often carved into tortured gullies and ravines and pockmarked with the raw wounds of recent landslides. From Kashmir to Assam the story is the same. Below 2000 metres there are literally no forests left. The Kulu valley, for instance, once a sea of deodars, some a hundred and fifty feet in height and ten feet or more in girth, is now mostly bare. Tree stumps dot the hillsides, and standing conifers have had their branches lopped off as far as men can safely climb.

Statistics cannot capture the full magnitude of the tragedy. But they tell a dismal enough tale. In Himachal Pradesh, 38 per cent of the land area was covered with forests in the mid-fifties. Even this was much below the recommended ratio of 60 per cent. But a recently concluded study by the government has revealed that in the last 25 years the forest cover of the state has fallen to 18 per cent. In other words, nearly one per cent of the land surface of the mountains and valleys of Himachal Pradesh is being stripped of its forest cover every year. Unless the trend is reversed, in 25 years at most, the Himalayas here will be as bare as the mountains of Lebanon.

HAVOC

Himachal, however, is not the worst afflicted state. Neighbouring Uttar Pradesh is far worse off, and further east, in the lower ranges of Nepal one often does not see a single tree for miles on end, on the southern slopes. This havoc has been wrought not by villagers in search of firewood but by the ruthless commercial felling of trees, nine-tenths of it illegal, carried on with the connivance of forest guards whom, as a senior officer of Himachal confessed, "one can bribe with a bottle of country liquor". But timber is not easy to disguise. Since roads are few and far between in the mountains, its movement should have been easy to detect. How then could so much timber have been felled and transported out of the hills with impunity? The answer is that for a variety of reasons, the state governments have left gaping loopholes in the law, which the timber smugglers have been able to exploit with ease.

The state governments have an extensive programme of commercial felling on which they rely for a sizable portion of their annual revenues. In addition, the villagers enjoy the right to fell trees on their private lands. Finally, since the government has declared all other forest lands to be its exclusive domain, it has in exchange given villagers residing in the hills certain timber distribution (TD) rights also called *barrandari* rights. In other words, from time to time villagers are allowed to fell a sin-

gle tree to meet their needs for a marriage, a cremation, or some other such social purpose.

In theory all these rights are circumscribed by the need to obtain the sanction of the forest department. For instance, only those trees can be felled which have attained a certain maturity. The forest guards identify and mark these in the forest lots auctioned for commercial felling, and no other trees are supposed to be cut. In the same way, trees on private land are marked according to a felling cycle determined every ten years. Trees earmarked for felling under TD rights, are also similarly chosen on the basis of age and spatial dispersion within the forest. But all this works only on paper.

AUCTIONED

The basis of the system is that felling rights are auctioned out by the government to private contractors. Once these have got into a forest, there is no way of stopping them from felling five or even ten unmarked trees for every one that has been marked for felling. Much the same thing has been going on in the case of the trees marked for timber distribution. In theory these cannot be sold, and their use for specific purposes must be verified by the forest guards. But once again, the soaring cost of wood has ensured that all this is forgotten, and the forest guard is bribed into acquiescence. For every sanctioned TD tree, officials in Himachal estimate at least five

are felled illegally.

The state governments, therefore, must bear a large share of the blame for the denudation of the Himalayas. They have relied heavily on the auction of felling rights to raise revenues. In fact, in most states the revenue target they set themselves determines how many trees will be felled. But in addition to this, in the system of competitive auctioning, unscrupulous contractors who intend from the outset to fell more than they are allowed, are able to outbid the honest ones. In Himachal, the state government earns three-quarters of its forest revenue, i.e. Rs. 12 crores or more from royalties on the commercial felling of about 200,000 trees. This amounts to Rs. 600 per tree. Against this the contractors are able to sell a medium sized deodar tree in Amritsar for Rs. 2,000 to Rs. 2,500.

Some idea of the incredible damage that the auctioning of felling rights has done may be had from the figures compiled by the Himachal government. In the state some 600,000 cubic metres of timber is felled on a commercial basis, another 100,000 cubic metres is felled on private lands, and 80,000 cubic metres is felled under the timber distribution rights. Since one medium sized deodar gives about 1 cubic metre of timber, this means that just under 300,000 trees are cut down every year, legally. Against this, the forestry department has been planting 20 million trees a year, and claims a survival rate of 25 per cent at the very least. In other words five million trees, i.e. 18 times the number legally felled, have been planted year after year,

and have survived. Yet every year, the area under forests has been halved! The conclusion is obvious: either these figures are eye-wash,

or upto 30 or 40 trees are felled illegally for every tree that is cut down legally.

One reason for the disparity may be that illegal felling does not account for all of the destruction that is taking place. Another important contributory factor is the tapping of resin from the pine trees. This is done by making a cut in the trunk — technically called a blaze — and collecting the resin that comes out as the stricken tree tries to heal itself.

So far, resin tapping rights have also been auctioned to the highest bidders. These have then proceeded to maximise their profits by blazing trees mercilessly, until they literally sicken and die. Against a maximum of three blazes that a tree can withstand, tappers are known to make as many as ten. Once again, a small gift ensures that the forest guard looks the other way.

Contrary to the general belief, deforestation is not caused primarily by villagers cutting down trees for fuel. This is because, thanks to the high cost of transport, when a tree is felled it is sawn on the spot and only the valuable timber is carried away. Most of the smaller branches, twigs and of course the pine cones and needles are left behind. These provide ample supplies of fuel in most areas.

WIDESPREAD

But here, also, as the area under forests has dwindled, the supply of such byproduct fuel has gone down, forcing the villagers to at-

tack living trees. So far, however, they have contented themselves with lopping off the lower branches. This practice is now so widespread that except in the remotest parts of the Himalayas, such partially denuded conifers are the rule rather than the exception.

Fortunately for the country, there is a growing realisation among some at least of the state governments of the deadly danger that the denudation of the Himalayas poses to the whole of northern India. The Himachal government has begun to implement a comprehensive plan that aims at cloaking fifty per cent of the land surface of the Himalayas with mainly coniferous forests by 2000 A.D.

Ironically, its very first step in this direction proved abortive. In 1980, shortly after the new government came to power, it informed the Centre that it wished to put a complete ban on all commercial felling for five years. It calculated that this would save atleast 3 million mature trees that would have been felled legally. In addition, it would make illegal felling exceedingly difficult. But it wanted the Centre to make good the loss of revenues from forestry operations, which amounted to Rs. 16.5 crores in 1979-80. Unfortunately this proposal was ruled out by the Centre on the grounds that the funds simply were not available. New Delhi proposed however that the state government should keep its revenue constant, and fell progressively fewer trees as the price of timber rose. The state government accepted this proposal and felled 10 per cent fewer trees in 1980-81. Despite this, its revenues from forestry rose to Rs. 18 crores.

[27 Oct 81 p 8]

[Text] II—Himachal's Plans for Forestry

BY far the most important step the Himachal government has taken is to drive out the contractors and take over all commercial felling in the state. It is doing this in stages. Contract felling was banned in nine out of the 27 forest divisions in 1980-81, and will be eliminated from the remaining divisions by 1983. Since contractors will now have no access to the forests any private felling will automatically be illegal and will be a good deal more difficult to conceal.

On October 2 this year, the government followed up this ban with a

comprehensive ordinance that also banned the felling of privately owned trees by the contractors after October 31, 1982. It also fully nationalised the tapping of resin. Henceforth those with private felling rights will have to ask the Himachal Forestry Corporation to do the job. In exchange, the government has promised to give them 40 per cent of the selling price of the timber. This means that the owners will now earn Rs. 800 to Rs. 1,000 on the sale of a medium sized deodar tree that fetches Rs. 2,000-2,500 in Amritsar. Against this, the private contractors have so far been

paying them Rs. 350 or less. What is more, the government has agreed to pay owners 10 per cent of the current market value as soon as they mark a tree for felling in the current selling cycle, and a further ten per cent a year up to the ceiling of 40 per cent. The owner is thus assured of an annual income from this tree, but still gets the difference between the market price at the time of making the contract with the government, and the market price at the time of felling. Privately tapped resin can also now be sold only to the government.

Flying squads

To enforce the ban, the state government has decided to shift the focus of its activities from the forests, where policing is difficult, to the roads. It is reinforcing the checkpoints at all the 19 exit points from the state. In addition it has set up flying squads to move rapidly to any point of the state where illegal felling or transport of timber is reported. Since they were set up last year, the flying squads have made 256 arrests for illegal felling. While this is not a bad record, state officials are puzzled by the fact that the rate of arrests has tapered off. In September this year it had come down to nil. They do not know whether this means that illegal felling and transport are on the decline, or that the squads are being bought off.

(However, the main thrust of the government's programme is on an extensive replantation scheme. From two crores of trees a year, it plans to raise the annual replantation rate to seven crores of trees in 1984-85, and intends to maintain it at this level for the rest of the decade. In 1980-81, it achieved its target of three crore plantings and is well set to attain the target of four crores this year. But replanting is only half the battle. The more important half is to ensure that the trees survive.

As was mentioned earlier, the government itself believes that more than a quarter of the trees planted actually attain maturity. But the extremely rapid rate of deforestation makes even this figure suspect. At any rate, officials in Himachal are acutely conscious of the fact that an improvement in the survival rate to just ten per cent above the present level, whatever it may be, will mean the addition of seven million more trees every year to the growing stock in Himachal.

Studies of the survival rate in the advanced countries show that it is seldom much higher than 60 per cent. The government has set a more modest initial target of 50 per cent for the state. To achieve this it is trying to tackle all the causes of the present low survival rate at the same time.

Corruption rampant

The main cause is simple corruption. Funds for the replanting programme are disbursed on the basis of "so much per tree." If the forest officers plant fewer trees and send in

a false report they can, and very often do, pocket the rest of the money. To reduce this malpractice if not eliminate it altogether, the government has decided that when handing over charge to his successor every forest officer must give a detailed tally of the total number of saplings planted and their location. His successor must verify this before taking over charge. If he does not, then he will be held guilty if there is a discrepancy when he in turn hands over charge to his successor.

In addition to better control procedures of this type, the government has also instituted prizes for forest divisions which achieve the highest survival rates. But the prizes being offered are pitifully small — ranging from Rs. 30,000 as the first to Rs. 10,000 as the third prize. But since these are given to an entire forest division, and have therefore to be shared by up to 100 persons, the individual prize money is very small.

This is an area in which private organisations and trusts can help. The Himachal government obviously feels inhibited about giving more handsome prizes for fear of setting a precedent that will provoke similar demands from its other employees. But private organisations and trusts do not have to worry about this. It will not strain the budget of large corporations, for instance, to offer even Rs. 10 lakhs worth of forestry prizes a year, particularly if a part of this can be written off immediately against taxes on the grounds that it stimulates rural development. But the impact of prize money on this scale on the state forestry departments will be electrifying. This is therefore clearly an area in which a little money will go the longest way.

Apple revolution

Perhaps the most serious problem that the Himachal government faces in the short run is the growing demand for soft wood to make cases for transporting apples. In 1980, this was of the order of 200,000 cubic metres, but the government estimates that by 1990, the demand from the orchards that have already laid out will amount to 4,000,000 cubic metres and require the felling of 140,000 trees.

The demands of the industry do not only pose a threat to the environment but also cause enormous economic waste. One consequence of the apple revolution has been a steady decline in the real price of apples over the last 20 years. Today, the viability of orchards situated in the interior or at some distance from a

motorable road is precarious. Growers claim that if a case cannot be supplied for six or at most seven rupees, the cost of packaging will become prohibitive. As a result soft woods, that could be used to make high quality paper, are being used for making cases. The value added is thus literally a hundredth of what it can be.

The Himachal government has decided to substitute wood partly with specially shaped cardboard cartons, rather like those used for transporting eggs, and partly with cases made from resin bonded board, from wood waste. A factory is being established at Parnassia in the foothills which will also produce other timber products and subsidise the production of apple cases from their sale. The scheme appears sound on paper, but as the history of most attempts at cross-subsidisation shows, such ventures often end up making very large losses.

In view of this risk, it is surprising that the Himachal government has not thought of making cases out of bamboo, particularly as it is planting stands all along the foothills in the areas prone to waterlogging. One reason may be that growers resist the use of bamboo. They point out that since bamboo baskets are flexible, the lower ones in a stack are likely to be crushed. This will bruise the delicate skin of the apples inside. But this problem can surely be overcome by appropriate design changes. Bamboo cases will not only be exceedingly cheap, but will also provide work to literally thousands of persons.

Powerful lobbies

Only time will tell how successful the Himachal government's programme will be. But irrespective of this, it deserves unstinting praise on one ground: from the first days of independence, forest contractors have been one of the main sources of party funds. Over the years they have built enormously powerful lobbies within the party in power and have "fed" scores, possibly hundreds, of MLAs. The Himachal government's decision has involved breaking the ruling party's links with the contractors. Not surprisingly, it provoked strong protests, so much so that the chief minister decided first to come down to Dehra and consult the party leaders before implementing his reforms. It is to his and their credit that the programme was endorsed and is now being implemented. Himachal has thus shown the way for Himalayan states to follow.

INDIA

BRIEFS

HOOGLY DESILTING PLAN--New Delhi, Oct. 12--The Dredging Corporation of India has prepared a Rs 5 crore scheme for the desilting of the Hooghly to make it suitable for deep navigation, reports PTI. The scheme, to be completed in five years, will provide for a draft of 10.5 metres for 365 days at Haldia port and a draft of nine metres for 300 days at Calcutta port. The corporation has undertaken a survey of the river. [Text] [Calcutta THE STATESMAN in English 13 Oct 81 p 3]

CSO: 5000/7009

PALM OIL, RUBBER FACTORY EFFLUENTS USED AS ENERGY SOURCE

Kuala Lumpur BUSINESS TIMES in English 30 Oct 81 p 18

[Text] PALM oil and rubber factory effluents which have been among the major sources of water pollution in Malaysia are increasingly finding uses which will go a long way towards raising Malaysia's competitiveness in the production and marketing of the two commodities.

Already the Sime Darby Plantations group has successfully carried out trial projects which not only enable its estates to comply with pollution control standards but also obtain fertilisers and energy in the process, thus yielding significant savings on operating expenses.

The development has also suggested possibilities that the surplus gas or heat and power from its estate mills can be packaged and distributed on a commercial basis if the supply exceeds the internal requirements of the estates or the company.

In addition it has been pointed out that the treated effluent from the oil palm and rubber mills can be used to produce animal feed or to improve the quality of mined out tin lands which can then be used as farmlands or plantations.

Earlier this month the company's palm oil mill at Bukit Rajah in Klang made a major advance when it pioneered the use

of methane or biogas from two mill effluent digester tanks to fuel a burner for producing the necessary heat in its SMR (block rubber) drying factory.

The effluent which is continuously run through the digester tanks for the production of the methane comes from both the rubber factory itself as well as an adjoining palm oil mill.

According to chemist Tan Yee Thiong who heads the company's Ebor Laboratories, which are also at Bukit Rajah, the mixing of effluents in the digester tanks is necessary because the rubber mill effluents on their own are not rich enough in nutrient or waste content to facilitate the maximum production of gas.

The process used, called the anaerobic (without oxygen) conversion of biomass, is well known in countries like India and China but adaptations have been introduced to suit the circumstances of Malaysia's plantation industries.

While admitting that other plantation groups (like Harrisons and Crosfield) have developed their own methods for dealing with palm oil and rubber mill effluents in order to comply

with environmental standards on waste discharge, Mr Tan said Sime Darby Plantations has been among the first to go one stage further in using the gas for various purposes.

At Bukit Rajah the digester tanks (the first full-scale ones to be designed and tried out by the Ebor Laboratories staff) were only big enough for fuelling part of the neighbouring SMR factory's drying operations.

However, when a couple of bigger tanks are installed at the company's Tannamaram estate further along the road to Kuala Selangor, the gas produced there will be enough to meet all the energy needs of the other estate, including gas for domestic cooking and the production of heat for drying operations, and electricity to provide light and power for the employees' quarters, and the estate office and plants.

Mr Tan said the use of gas from the digester tanks for the SMR factory's drying operations at Bukit Rajah is expected to save the company about \$7,000 a month in fuel costs.

Later, when the gas is used to provide steam for driving a power generator in the neighbouring

palm oil mill, the savings are expected to be even more substantial.

Mr Tan said that each of the digester tanks has a capacity of 1,500 tons and can handle only a fraction of the total effluent discharge from the palm oil and rubber mills on the estate.

Pumps are used to move the effluents into and out of the tanks but stirrers (which would speed up the digesting process) will be used only in the newer and bigger plants being set up at Tannamaram.

The blance of the palm oil and rubber factories' effluents are treated through the ordinary ditching or ponding system which takes up valuable space but has the compensating advantage of yielding residual matter which can safely be spread or sprinkled on cultivated land to improve its fertility. (Sime Darby Plantations currently spends around \$4 million a year for fertilisers, Mr Tan pointed out.)

The residual matter from the treatment processes is also believed to possess the ability to improve tin mine tailings and other worked out lands and experiments are being carried out to find the best ways of using mill effluents for such purposes.

OPPOSITION OPPOSES NATIONAL AMENDMENT BILL

Wellington THE EVENING POST in English 9 Oct 81 p 6

[Article by Rae Lamb: "Major Changes To 'Fast Track' Bill"]

[Text] The controversial National Development Amendment Bill has been substantially altered by a parliamentary select committee.

But when the bill was reported back to the house yesterday the Opposition still bitterly opposed it. Labour MPs pledged that on becoming government they would repeal the bill and the original act.

A number of the changes to the bill simply altered the wording and clarified certain provisions.

The most substantial changes involved the deletion of a clause giving the Planning Tribunal certain rights relating to applications under the act, a substantial modification to the provision relating to the awarding of costs by the tribunal, and the dropping of a clause allowing the governor-general to validate slight irregularities in the planning procedure required by the act.

The clause relating to the role of the Minister of Works and Development and the commissioner for the en-

vironment at a tribunal hearing was clarified as was the clause relating to the tribunal's report on consents.

The chairman of the lands and agriculture select committee, Mr Leo Schultz, told Parliament that the general tenor of the 77 submissions received by the committee was adverse to the bill. He believed the effect of the bill was not understood and that it would be different from that envisaged by the critics of the bill.

The bill, he said, was designed to remedy a small loophole in the original act.

Labour's Christchurch Central MP, Mr Geoffrey Palmer, said it was a bad bill aimed at facilitating the Government's "think big" strategy, and in particular the Aramoana smelter.

The bill had been put on a legislative fast-track and

only half of those witnesses who had wanted to be heard by the select committee had been heard. He questioned the need for this rush, saying that Aramoana was shrouded by doubt and might not proceed at all.

Mr Palmer said that although some of the more obnoxious provisions in the bill had been dropped or changed, the Government had been deaf to pleas for amendment to clause 3. A clause that he believed would clip the wings of the commissioner of the environment.

The Parliamentary Under-Secretary to the Minister of Energy, Mr Brill, accused the Labour Party of blind prejudice against growth and development.

He said it was wrong to say the commissioner for the environment's powers were being trimmed, and Labour was responsible for public uncertainty about this.

Mr Brill said the obliga-

tions of the commissioner under the new bill were minimum requirements. The commissioner could do a lot more than was asked if he felt it was necessary.

The Minister of Energy, Mr Birch, said 77 submissions from the whole of the country did not indicate great opposition to the bill.

He said the bill defined the role of the commissioner so he would focus on the adequacy and accuracy of environmental impact reports.

Labour's Waitakere MP, Mr Ralph Maxwell, said the Government's attempt to paint Labour in an anti-growth position was rubbishy propaganda.

The bill, he said, had been shredded and the Government was stuck in "no man's land" not knowing which way to go.

The Opposition lost the division on whether the report of the select committee should be accepted by the house.

GOVERNMENT MOVES TO PROTECT RIVERS TERMED INADEQUATE

Wellington THE EVENING POST in English 21 Oct 81 p 27

[Text] Conservation groups have strongly criticised government moves to protect wild and scenic rivers as inadequate.

The Acclimatisation Societies, Environment and Conservation Organisations (Eco) and the Federated Mountain Clubs all attacked the Government's proposed Water and Soil Conservation Amendment Bill as failing to provide the permanent protection for rivers that the Government had promised.

But in a joint submission to the specially formed parliamentary select committee studying the measure, Federated Farmers and the New Zealand Freezing Companies' Association criticised it for failing to spell out protection for those using water for farming and industry.

The bill's opponents all called for separate legislation to protect rivers, like the American Wild and Scenic Rivers Act in the United States.

Objections

Summarising the objections, the national executive of New Zealand Acclimatisation Societies told the committee the bill "at best" only gave those interested in preserving the rivers "a chance to compete" with those seeking to physically change rivers for productive purposes.

Rather than accepting that rivers should be left untouched unless need to change them could be proven, the legislation supported the concept that they were there to be used for

productive purposes and should only be protected if a strong enough case could be made for this.

"This is the exact fundamental weakness in the philosophical approach of this bill to natural water," the Acclimatisation Societies said. The bill forced its conservators to "justify the existence and continuance of a natural resource that is just that - natural."

"The presumption should be in favour of the status quo, unless there should be some strong reason otherwise."

It was "fundamentally wrong," the societies said, that groups should have to go through elaborate and expensive procedures "simply to maintain that which is already there."

Eco said the bill was "inadequate to provide permanent river protection for outstanding rivers."

Special

Rivers in their natural state were the last "major unprotected component of the New Zealand landscape" and adequate protection demanded a special act with a schedule of outstanding rivers to be given permanent protection from hydro-damming.

Half the country's estimated hydro-power potential had already been utilised and "all the easy rivers have now been dammed," Eco said.

"Further exploitation will be increasingly expensive and dangerous and will increasingly compromise outstanding rivers."

Clubs

The Acclimatisation Societies and Eco were both echoed by the mountain clubs who said the bill was "completely inadequate to provide permanent protection from damming for outstanding wild and scenic rivers."

But Federated Farmers, while not opposed to certain areas of natural water being set aside under a conservation order system, was concerned that insufficient concern was being given to irrigation needs.

The bill should not be rushed through Parliament before it rises at the end of this week but should be considered at more leisure during the summer recess, Federated Farmers said.

The freezing companies also accepted it was "appropriate New Zealand have legislation permitting areas of natural water to be set aside because of the special character of the area."

But they said they were concerned that the bill as proposed would have adverse effects on existing and potential industry.

The bill did not specifically limit what water might be preserved and left "users of water for farming and industrial purposes" in a state of uncertainty.

FOREST PROTECTION GROUP ATTACKS LAND DISPOSAL BILL

Wellington THE EVENING POST in English 6 Oct 81 p 13

[Text]

The public will have no say over the disposal for farming and other purposes of up to 1200 hectares of indigenous state forest land, according to the Native Forests Action Council.

The council president, Miss Gwenny Davis, said a bill before Parliament provides for the disposal of land in Okarito, Pururoa and other state forests but the Government has refused the Native Forests Action Council the right to make submissions on it.

She said that environmentally sensitive land adjoining the Okarito white heron sanctuary would be handed over to farming interests for clearance.

Appeals

The Reserves and Other Lands Disposal Bill was not advertised and the public had been denied the right to make submissions.

Despite appeals to the

Ministry of Forests and Environment, the bill had left the select committee and was now going to a third reading.

"This is just a devious way of getting around the Government's indigenous forests policy which requires the Government to demonstrate that no other land in the region is available before native forest can be burnt off and converted to other uses," Miss Davis said.

Status

"This disposal of native forest flies in the face of assurances given in a press release by the Minister of Lands on October 7 last year in which he said: No changes of status will take place without the normal statutory notice and public objection provisions," Miss Davis said.

The Native Forests Action Council wants the bill referred back to the select committee and public submissions invited.

The council has appealed to the Labour Party to do its best to stop the bill being railroaded through Parliament.

CSO: 5000/9050

ENVIRONMENTALISTS DENIED ACCESS TO POLDER SCHEME SITE

Wellington THE EVENING POST in English 12 Oct 81 p 5

[Article by Janet Drummond]

[Text]

FEATHERSTON, Today.
— The Lake Wairarapa reclamation scheme controversy flared up during the weekend when a party of environmentalists wishing to view the site of the proposed polder scheme were denied access to the lake shore.

A group of 30 representatives of the Wairarapa Acclimatisation, Conservation and the Royal Forest and Bird Protection Societies and local farmers were highly indignant.

They had advertised a familiarisation tour and travelled to the lower valley where they intended to pass through the Wairio farm settlement, 24km south of Featherston, to obtain a closer look at the eastern shores.

The senior field officer for the Acclimatisation Society, Mr Ian Buchanan, said he had a standing arrangement with the manager of the farm, which is under development by the Lands and Survey Department, to be allowed to pass through the

property to gain access to the lake during the duck shooting season.

He said: "I was most surprised to say the least when we were denied right of entry on Saturday. No reason was given, except that the manager had been given authority by his superiors to refuse us access."

Angered

Mr Buchanan said that people concerned over the catchment board's proposed reclamation scheme needed to view the site before submitting their views to an environmental impact report.

The Wairarapa Royal Forest and Bird Protection Society chairman, Mr John Newton, said the party was angry to be ordered off Crown land for no apparent reason. The authorities could have at least warned the conservationists by telephone before they set out instead of waiting until they arrived. He wondered what the authorities had to hide.

"The lake margin threat-

ened with destruction is rated by the wildlife division as the third most important wetland system in New Zealand. This is a national issue and our society shall take it up with the MP for Wairarapa, Mr Couch."

The Wairarapa Conservation Society secretary, Mrs Beverly Rigg, said many members of the party wanted to see the area the board had planned for reclamation.

The society was shown the area on a map by the catchment board officers. It was a considerable area, 15km long and 1.5km out into the lake.

Mrs Rigg said the shallow lake margin provided a valuable breeding ground for migratory birds such as godwits as well as rare species like the spotted crane, the bittern and the white heron.

CSO: 5000/9050

MINING INDUSTRY, ENVIRONMENTALISTS CLASH OVER MINING ACT

Industry Leader's Warning

Wellington THE EVENING POST in English 10 Oct 81 p 1

[Text]

MAJOR INTERNATIONAL mining companies will probably pull out of New Zealand if a bill before Parliament becomes law, a local exploration company head claimed today.

In a letter to the editor of the "Post", Mr Keith Walshe, managing director of Bronze Boulder Mining and Development Co Ltd, also blasted "misdirected and uninformed conservation attitudes".

He said these attitudes had played a significant part in the amendments to the Mining Act now before Parliament.

The amendments will get a second reading this week and it is expected that they will go through all stages before the house rises in a fortnight.

Bronze Boulder is a wholly New Zealand-owned company. It will shortly operate four gold-dredging machines on the Clutha River and is currently involved in a joint-venture exploration in the Ida Valley with Gold Mines of New Zealand, a company almost wholly owned by South Africa's Anglo American Corporation.

Mr Walshe said the mining industry in this country was in deep trouble because of the bill, and, if passed into law, future exploration activities could be stopped.

He said the upsurge in the hunt for mineral resources in the Western world had been heralded in New Zealand by the arrival of exploration teams with some of the largest mining companies in the world.

High-risk cash

"These companies bring high-risk capital that is not available here, and the expertise which New Zealand does not have to develop the more complex mineral assemblages."

The mining bill could double the time it took to obtain licences, and set other constraints.

"The present mood of explorers is to take their expertise and money elsewhere.

"This is a serious situation for New Zealand

when it appears that nature has provided the answer to New Zealand's problems and man blunts the country's opportunities for its own development."

Proportions

Mr Walshe said the potential land area involved in mining would be a fraction of one percent, while environmentalists "control" a substantial proportion of the land.

"It is also unfair and unrealistic that (environmentalists) should expect other countries to mine their minerals so that we may buy them and not explore for and develop our own. They could not live in houses, ride bicycles, own cars, watch TV or even nail together an objection or protest placard without someone somewhere mining minerals to allow them to do so."

Mr Walshe said the greatest environmental problem in New Zealand was soil erosion, but environmentalists were not out planting trees on erosion-prone areas.

"The choice of protest matters and priorities by many of the so-called environmentalists, in relation to the true environmental problems facing the nation, is a matter for conjecture and warrants some deeper thinking by the public."

Much at stake

Mr Walshe said a lot was at stake: Southland lignite could yield up to 4000 million tonnes while the West Coast of the South Island has large reserves of ilmenite, an ore of titanium. But investigations by companies of tungsten, molybdenum, vanadium, platinum, cobalt, lithium and phosphate resources were being delayed by hold-ups in the granting of prospecting licences.

Mr Walshe also complained of the increased penalties the new bill sets.

"Breaching the Mining Act (will carry) a penalty of up to \$50,000 whilst assaulting a policeman may only cost \$140. How ludicrous the situation."

Environmentalists' Reply

Wellington THE EVENING POST in English 14 Oct 81 p 26

[Text]

THE Government is "leaning over backwards" to accommodate the mining industry in amendments to the Mining Act, the chairman of the Environment and Conservation Organisations, Mr Hugh Barr, claims.

He was reacting to a report in Saturday's "Post" in which the managing director of Bronze Boulder Mining and Development Co Ltd, Mr Keith Walshe, claimed the amendments would drive big international mining companies out of New Zealand.

He claimed the mining industry would be in deep trouble if the bill were passed into law and future exploration activities could be stopped.

The Minister of Energy, Mr Birch, who is responsible for the bill, declined to comment, as the bill is to return to the House this week for a second reading.

Mr Barr said Mr Walshe's statements made surprising reading. He said mining still retained major privileges over all other land use.

"The main privilege is that all decisions about mining remain in the hands of the Minister of Mines, whose statute requires him to encourage mining, rather than with an independent assessor."

The Government, he said, was being very accommodating towards the mining industry.

Licence

"A new limited prospecting licence has been introduced, grantable by the Minister of Mines, that makes prospecting easier to carry out. Fines are still miniscule, given the major damage that could be done to the environment by modern large-scale mining."

Mr Barr said conservationists believed the mining industry would pay its fair share of environmental costs.

"Farmers on the West Coast have been dismayed to find foreign-owned gold dredges could move in and dig up their good farmland, and ordinary citizens of Coromandel fear similar aggressive acts. Rather than an outburst of emotional abuse at environmentalists, Mr Walshe should be more interested in his industry,

being a good citizen and cleaning up after it.

"If the industry isn't prepared to do this then we shouldn't be too unhappy if they pull out, as he threatens they might."

CSO: 5000/9050

MINING WASTE BLAMED FOR POLLUTION

Manila BULLETIN TODAY in English 17 Nov 81 p 14

[Text]

URDANETA, Pangasinan, Nov. 15—The Urdaneta Farmers Federation has asked President Marcos to stop the pervasive siltation of thousands of farm lands here due to mining wastes.

Speaking through federation president Filomeno O. Rosario, the farmers in this Northern Luzon trading center said that "only by direct order of the President will government agencies concerned take speedy action on our siltation problem."

Citing the tremendous destruction caused by the unabated siltation

on the farm lands, Rosario denounced the national irrigation administration and the national pollution control commission for failure to stop their pollution problem.

It has been many times in the past that the pollution problem and its concomitant horror were brought to the attention of the two government agencies, Rosario pointed out, even as he proposed the following measures:

- 1) The mining companies should pay for the dredging of the communal irrigation canals.
- 2) Owners of silted farm lands be paid by

the companies responsible for pollution in proportion to the production damages, not on the basis of five centavos per metric ton of silt, taken from the affected farm lands.

- 3) The mining companies be required to install pollution control devices to prevent further siltation of the low land ricefields.

Rosario added that aside from the siltation of communal irrigation canals, the tailings from the mining companies also poison the life-springs flowing along the canals.—(Jun Velasco)

CSO: 5000/4906

BANNED PESTICIDES STILL WIDELY USED

Islamabad THE MUSLIM in English 8 Nov 81 p 5

[Article by Suchin Preecha]

[Text]

THE UNITED STATES rejected a large shipment of Thai soybeans a few months ago. Other crops like rice, maize, sugarcane, beans and fruits are also in danger of being banned by foreign importers.

The reason: these crops contained residues of Dieldrin and DDT, harmful chemicals which have been banned in the U.S.

Yet, Thai farmers and other farmers in the Third World continue to use these banned chemicals. Intensive propaganda about the beneficial effects of pesticides has transformed Thai farmers from skeptics to virtual zealots of inorganic chemicals.

But with increasing costs, rodents and new crop diseases—not to mention the harmful effects of these chemicals on man—it is highly debatable whether pesticides actually increase agricultural production.

A government scientist is trying to combat this and in the process, he almost lost his job three times. The outspoken views of Dr Prayoon Deemar of the office of toxic substances research have ostracised him from his colleagues at the Ministry of Agriculture.

He has accused the United States manufacturers of dumping toxic chemicals—such as insecticides and pesticides—on developing countries at a rate that has virtually turned the peoples of these nations into 'gulon pigs'.

Dr. Prayoon, who spoke during a seminar on the control of chemicals in importing countries in Yugoslavia last April, charged bitterly that some of these toxic

substances have long since been banned in the United States itself.

"But their foreign sales are being pursued relentlessly in utter disregard for the well-being of the people in the importing countries," he said.

Dr. Prayoon said that while the awareness of the hazards of toxic chemicals is growing among developing countries, the countries find themselves helpless in the face of powerful lobbies mounted by the foreign manufacturers.

"Manufacturers of toxic chemicals for agricultural and pharmaceutical purposes are so powerful that they can virtually control governments of developing nations," he said.

Dr. Prayoon said that as an example, Thailand has never banned a single toxic chemical despite its Toxic Substance Control Act. Such deadly and banned chemicals as Trichlorophenoxy Acetic Acid and Paraquat or Gramoxone are still widely used in Thailand and other Third World countries.

Dr. Prayoon said that more than ten sugarcane plantation workers have already died from too much residue of Paraquat. A person who ingests more than 0.1 parts per million (PPM) of this dangerous chemical would die within six hours if no proper and immediate treatment is administered to him.

To add to the misery of the Thai victims, treatment can only be done at Bangkok's Chulalongkorn Hospital.

"Considering the time constraint and the distance between the southern provinces and the hospital, a sugarcane plantation workers with more than 0.1 PPM in his blood would certainly die before he receives proper treatment

- if he ever gets one at all," Dr. Prayoon said.

In the rubber plantations of Thailand, the chemical Trichlorophenoxy Acetic Acid- or better known by its formula, 2,4,5-T - is still widely used as a weed killer. This toxic substance is composed of a chemical called Dioxin.

During the Vietnam War, this chemical was mixed with another known as 2, 4-D to produce a defoliant called 'Agent Orange'.

But before the chemical was used as a war weapon by the USA in its scorch-and-search campaign in Vietnam, 'Agent Orange' was tested in Karnchanaburi Province, only 150 kilometres west of Bangkok.

After the Vietnam War, many American soldiers involved in the spraying campaign were found to have died of cancer. The U.S. War Veterans Organisation filed a damage suit against the manufacturer of the deadly chemical.

For its part, the U.S. Environmental Protection Agency ordered the manufacturer in 1971 to reduce the Dioxin content of 2, 4, 5-T to 0.1 PPM. The chemical was finally banned in 1979 when tests showed that even with minute amounts, children born in Arkansas farms where 2,4,5-T was used had cleft palates.

"At present, 2,4,5-T is banned

in most developed countries as the U.S., Britain, Sweden, the Netherlands and Italy but the manufacturers continue to dump these deadly chemicals on developing countries," Dr. Prayoon said.

The Thai scientists fight against dumping of toxic chemicals on Thailand is a hard struggle. Because of his crusade, his office was excluded from the 1982 Thai budget, which meant that the office for toxic substance research had been automatically dissolved.

But Thai consumers, who are the most exposed to the hazards of such toxic chemicals, can continue where Dr. Prayoon has been cut off. United and with firm resolve, consumers themselves can galvanise action on many fronts.

The public's right to know what harmful substances go into the production of the foods they buy should be underscored at every turn. The right to reject such contaminated products is another act, not to mention their right to a clean and healthy environment.

The exercise of these rights by consumers as proved in many countries, will go a long way in convincing the bureaucracy to heed Dr. Prayoon's warning. - *Asiatrav Saphnews Service.*

CEMA ENVIRONMENTAL PROTECTION PROGRAM OUTLINED

Warsaw GAZ, WODA I TECHNIKA SANITARNA in Polish No 4, Apr 81 p 93

[Article by Dr Leszek Sobczak]

[Text] Scope of Cooperation

The undertaking by the socialist countries joint efforts for the development of science in the area of protection and development of the environment is as apparent today as it was in 1979 when the decision was made to start an international research program of the CEMA countries, certain of their problems being held in common.* To these belong, first of all, the problems of air pollution control. For it is the air which is the source of most industrial pressures, and air polluted in one country can deposit its ruinous load in another. Though on a smaller scale, a similar example is furnished by rivers on national boundaries, rivers which flow through several countries and the waters of the Baltic. Cooperation of CEMA countries is currently at the stage of finalization and summation of the results of research conducted under the current 5-year plan as well as the work on the program for the years 1981-1985. The area of this cooperation embraces 18 subjects, ranging from theoretical questions of biocenology through protection of landscapes, chemical pollution and the genetic effects of environmental pollution, to methods of protecting and restoring various kinds of natural resources. Thus, cooperation includes all the fundamental issues which are significant for the development of scientific notions and economic practice in the area of protection and development of the environment in the socialist countries.

Scientific Notions

In the territory of the CEMA countries, similar types of pressures are exerted, connected with the development of the same subsectors of industry, chemicalization and intensification of agriculture, urbanization and the like. Then too, ecosystems exposed to the exertion of anthropogenic pressures exhibit marked similarities in the territories embraced in the research. This is a consequence of the fact that the forms and the extent of the economic exploitation of the environment in these

*For details see: L. Sobczak "Wspolpraca panstw RWPG w dziedzinie ochrony srodowiska naturalnego" [Cooperation Among CEMA Nations in the Field of Protection of the Natural Environment] Koszalin Studies and Materials 1978, No 2, pp 196-200.

countries are similar. Such a situation indicates the possibility of the application of similar preventive measures and methods of protection, shaping and rebuilding of ecosystems subjected to analogous types of pressures. In the course of cooperation, the accompanying identification of the scientific capabilities active in the field of research in environmental protection in the various countries indicates that in the sphere of CEMA, there exists significant differentiation in the area of scientific specialization. Research centers named for the questions they study exhibit significant variation as to the equipment in their research laboratories, the methods applied and their approach to research. In the USSR, there are advanced methods for researching the changes occurring in several kinds of ecosystems subjected to different anthropogenic factors. Soviet colleagues are working out programs adapted to digital computers, simulating the course of natural processes. Such methods make possible the determination of the probable changes occurring in ecosystems in consequence of the development of certain subsectors of industry, agriculture and the like.

In the GDR, there is a developed program of research based on mathematical theory and cybernetics aimed at the investigation of the structures and processes emerging in ecosystems under the influence of human activity. In Czechoslovakia, there are very advanced studies in the ecology of landscape. In Poland, on the other hand, there are developed centers concerned with the general idea of ecological structures, especially biological structures which determine the resistance and the flexibility of ecosystems subjected to the influence of industrial pressures. An analogous differentiation of scientific capabilities in the several countries is to be a premise for the international division of labor.

Division of Labor

None of the CEMA members countries have total mastery alone of the scientific field of environmental protection, for none have a sufficient quantity or quality of scientific cadres or information services for this purpose. Research in the field of environmental protection embraces many thousands of scientific papers which appear every year.

The next valuable element of CEMA scientific cooperation is the communication of experiences among the countries. It embraces not only the results of published works but, above all, information about unpublished work and current laboratory research. This makes it possible to obtain the results of unsuccessful experiments, constituting perhaps a somewhat unpleasant, but, nonetheless, inevitable element on the research road of the new and unknown. The results of such studies do not, as a rule, constitute a subject for publication, but, on the other hand, information about them is extraordinarily valuable for those researchers who are working in a related subject area, facilitating the elimination of errors, the verification of their own assumptions as well as their research concepts and the selection of correct methods for the solution of the problems defined. Research techniques, especially such advanced ones, lend themselves to rapidly recurring gathering of information relying on modern, automatic instruments.

This is the next area of cooperation. And in this field a significant differentiation among the several partners occurs. This is a field of intensive cooperation, embracing the transmission of methodological experiments and the training of cadres. Summer schools are organized each year in particular countries. These are most

often devoted to methodological subjects combined with practical knowledge of the use of research techniques. Such activity is currently being expanded by means of the creation of a system of scientific training periods, as well as by making it possible to complete doctoral studies in various centers abroad.

New Forms

Recently new forms of cooperation have emerged. Among them are joint, international research projects based on the international division of labor. For example, with regard to research on the seasonal migration of economically important varieties of birds, the jointly gathered extensive materials are next divided in parts among the several centers for the drawing up of a single, collective monograph. In other instances, the basis for the division of labor is the methodological or thematic specialization. A similar division of work assignment is emerging in research on the optimization of game management.

Scientific symposia and other forms of comparing the results obtained in the various centers are an important sector of cooperation. Without a doubt, they constitute a stimulating factor both in the area of themes and methodology and in the rate of implementation of research assignments. The awareness of scientific progress in other centers and the sense of urgency resulting from deadlines for the comparison of results obtained in 1979 have a mobilizing effect on the development of scientific research among all the partners.

The scientific cooperation implemented within the CEMA framework is exceptionally effective. It is likewise continuous and consistent. These international contacts have, beyond direct scientific cooperation, still another merit: the deepening of the sense of comradeship, respect and trust, factors which are as important in science and politics as they are in life.

LITERATURE

1. Text of the agreement for international cooperation of the CEMA countries in the sphere of the protection and development of the natural environment of man, dated 1975.
2. A report of the implementation of the international agreement concerning the cooperation of CEMA countries in the area of the protection and development of the natural environment of man, dated 1978/1979.
3. A plan for the international cooperation of CEMA countries in the area of the protection and development of the natural environment of man for the years 1981-1985.

8536

CSO: 5000/3003

HYDROELECTRIC PROJECTS POSING GRAVE ENVIRONMENTAL RISKS

Buenos Aires LA PRENSA in Spanish 20 Oct 81 p 16

[Article by Isaac Francisco Rojas]

[Text] Virgilio Roig, United Nations consultant for environmental problems who has also been minister of economy of Mendoza, recently spoke at length about the "serious dangers (ecological) the Yacyreta dam will entail." He made a number of significant comments including the following: "In agreement with the former vice president of the nation, Ret Adm Isaac Rojas, I would categorize the Argentine-Paraguayan hydroenergy undertaking as a 'biological bomb.'"

Mr Roig's statements are of great importance and Gen Lino Montiel Forzano, Argentine president of the Binational Yacyreta Enterprise, addressed himself to them in the 19 September issue of LA PRENSA and invited Mr Roig's further views on the subject.

Mr Roig's statement is in error since neither I nor the enterprise I head consider Yacyreta Apipe a "biological bomb." In statement No 14 issued in July 1980 by our organization (Commission for the Defense of Argentine Interests in the Plata Basin) it says verbatim in paragraph No 5: "And furthermore, the construction of Corpus in Ita-Cua violates the agreement itself since when it is operating at peak there will be 60 cm variation in the level of the lake, and every day the water will cover and uncover large tracts which in this situation will become a swamp, a perfect "habitat" for the snail which is a vector of Schistosomiasis mansoni (blood fluke). In this thoughtless manner a 'biological bomb' will be built in a populated area which is now free of that endemic disease which plagues Brazil." This statement was sent to all the high national authorities and to many officials, among them the governors of the provinces of the Northeast and the Argentine ambassador in Brazil who at present is acting minister of foreign relations, an office which has had so great an influence in the signing of the faltering and defeatist 1979 trinational treaty of Puerto Stroessner.

The Case of Corpus

Thus we were not referring to Yacyreta-Apipe but to Corpus, in the event this dam were to be constructed in Ita-Cua and not at the level of the island Pindo-I (opposite Corpus) as our engineers and technicians had planned and as the most elementary geopolitical prudence would dictate. This appears not to have been taken into account by our defensive policy in the face of the new "transveral

"determinism" which Brazil is developing. Even less consideration was given to a policy of expansion designed to make the presence of Argentina, which is now almost nonexistent, felt in the Southern Cone of the continent.

However, it was not only on that occasion that we referred to the danger of endemic Brazilian contamination of our waters in the projected Corpus dam (if it were to be erected in Ita-Cua). In our book entitled "Argentine Interests in the Plata Basin" (2nd edition 1972) we devoted a substantial part of a chapter, No 12, quoting a work called "Conflicting Solutions in the Upper Parana" which was published in 1972 in LA CAPITAL of Rosario, LA NUEVA PROVINCIA of Bahia Blanca, the BULLETIN OF THE NAVAL CENTER (October-November 1972), EL TERRITORIO of Posadas and other newspapers of the interior. We have also dealt with the subject in other books and writings, taking into account the authorized reports and studies of Argentine scientists such as Doctors W. Avalos and Humberto R. Cabral, Jr. as well as those of their distinguished Brazilian colleagues who are diligently studying and researching this very serious problem which deeply affects a large number of their fellow countrymen, since the infected area is spreading toward the Paraguayan, the Uruguayan and the Argentine borders. The graphs published in the 1971 studies—reproduced in my above mentioned work—pointed out that this area encompassed two-thirds of the Brazilian territory, including a large part of the Amazon Basin and practically all the Plata Basin from the states of Minas Gerais, San Pablo, Parana and the north of Santa Catalina all the way to the Atlantic coast.

After 10 Years

Ten years have gone by. To what new areas has the infection spread? Have the methods for combating it given the hoped-for results in Brazil? Has our government consulted with Argentine specialists who are scientifically and patriotically concerned about this serious and imminent threat which hangs over the health of a vast percentage of the Argentine population, that which lives in the nation's historic nucleus: Tucuman, (in its Quichua or precolonial sense), Mesopotamia, Santa Fe, El Chaco and Formosa? That is, the entire valley of the Argentine Plata, including a large part of Buenos Aires Province. Outside our political borders, Bolivia and Uruguay will not be free from the risks of contamination.

For this reason, we do not reject the notion that the contamination of the Schistosomiasis mansoní which plagues Brazil, may seep into Yacyreta-Apipe as Mr Roig points out and, of course, in the dams that will be built on the Uruguay River under joint Argentine-Brazilian control from the Pepirí-Guazu in the north to the backwaters of the Salto Grande reservoir at the level of the Cuareim Rive on the Uruguayan-Brazilian border. In this way the province of Misiones would be the first Argentine area to be exposed to the danger of the endemic infection, caught between two fires: one coming from the Parana River and the other from the Uruguay. (See figure).

Hydraulics and Ecology

We are in agreement with the construction of the necessary hydraulic facilities but under strict conditions which take into account the ecology, on the one hand, and the geopolitics on the other. Since we feel that the latter was not taken into account by the Argentine representatives in the negotiations which led to the signing of various bi- and trilateral agreements (Argentina, Paraguay and Brazil),

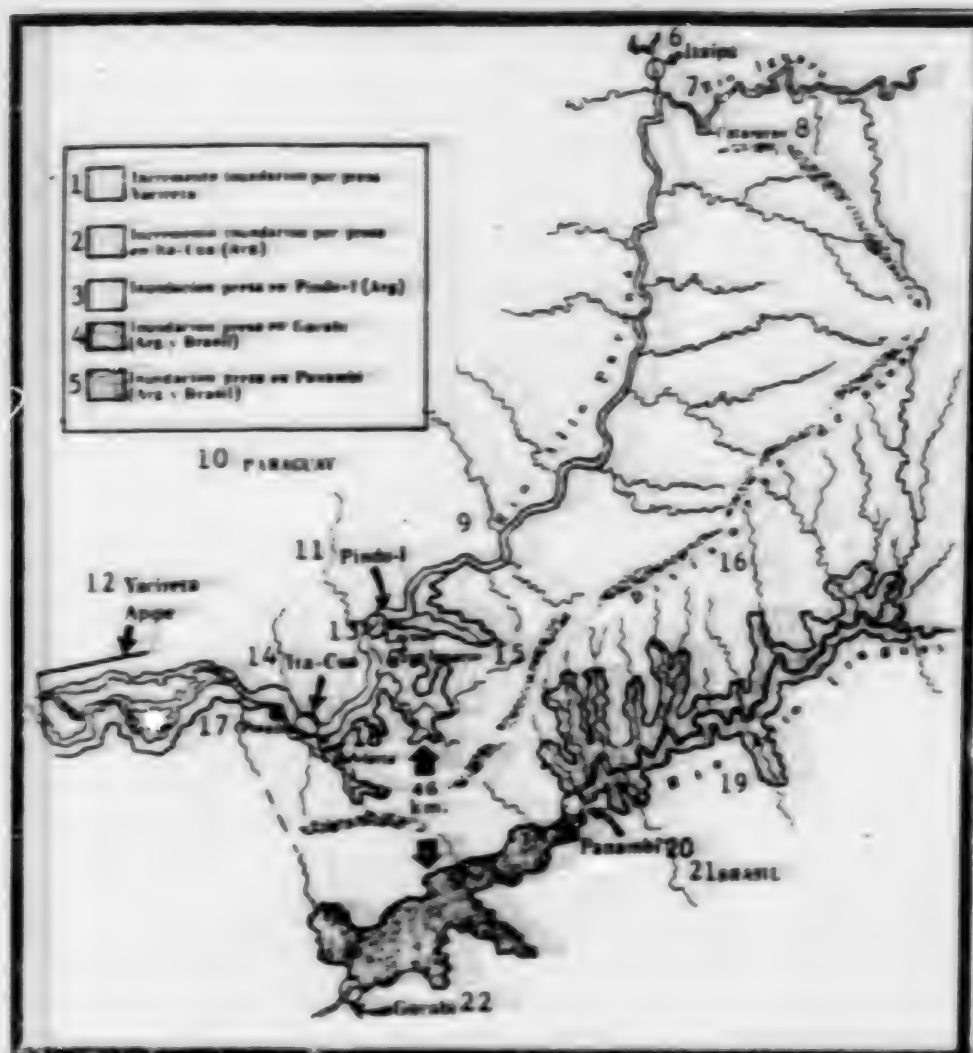
with obvious prejudice to the prestige and the interests of our country in the Plata Basin, we hope that the experience gained by the Argentine Foreign Office, now headed by an official who has actively participated, as ambassador to the Brazilian Government, in the negotiations and the signing of treaties which have been so unfavorable to us, we hope, I repeat, that the ecology will not be neglected. And, in reference to *Schistosomiasis mansonii* (from now on *S. mansonii*) we hope that at least the "Report by a Committee of Scientists of the WHO (World Health Organization, Geneva, 1980) with the title: "Schistosomiasis: Epidemiology and How To Combat It," technical reports series No 643, will have been read. I only quote technical recommendation No 12, page 64: "The increased migration of infected persons from regions in which there are *S. mansonii* strains resistant to the known medication is a matter of concern. It is essential to continue the diagnosis and treatment of those persons who migrate." Paragraph No 9 of the General Recommendations, page 66 states:

"WHO should provide the maximum support possible to the national programs combating Schistosomiasis which have been recently established in areas which are classically endemic such as the Nile Valley, the Philippines and Brazil because these endemic areas have most of the people of the world who are seriously infected."

Disadvantages of Corpus in Ita-Cua

We repeat that the construction of the Corpus dam in Ita-Cua and not at the level of the island Pindo-I involves, among other serious disadvantages which we have insistently mentioned, that of making an enormous swamp of some 38,000 hectares, in the immediate vicinity of Yacyreta in contrast to a swamp of 9,000 hectares in Pindo-I which would be very much closed in and this would act as a sort of biological brake and would make it very much more controllable than Ita-Cua in respect to the dissemination of *S. mansonii* if this endemic disease could not be confined to Brazil. And even though it were confined to that area, isn't there an extreme "permeability" of the border, the danger of which is pointed out in the reports quoted? What are the security and defense measures that Argentina has agreed upon with Brazil to prevent an infection which is already on its way to our borders—if it hasn't already arrived? And since the contamination comes from Brazil alone and it is Brazil who should assume the broadest responsibility for combating the disease, not only within its borders but also in preventing the disease from spreading to its neighbors, assuming a substantial share of the expenses, what contractual provisions has our government insisted upon, as just and reasonable and required as a part of its duty to protect the health of the Argentine population? We assume that the well-known "pragmatic" tendencies which characterize the diplomatic style of the minister of foreign affairs and culture will now be brought to bear to prevent a probable emergency which should have been borne in mind earlier on the basis of immutable and well-known principles of international law."

Map I



Legend:

- | | |
|---|-------------------------|
| 1. Increase in flood area due to Yacireta dam | 11. Pindo-I |
| 2. Increase in flood area due to dam at Ita-Cua (Argentina) | 12. Yacireta Apipe |
| 3. Flood area of dam at Pindo-I (Argentina) | 13. Corpus |
| 4. Flood area of dam at Garabi (Argentina and Brazil) | 14. Ita-Cua |
| 5. Flood area of dam at Panambi (Argentina and Brazil) | 15. San Ignacio |
| 6. Itaipu | 16. Watershed |
| 7. Iguazu River | 17. Posadas |
| 8. Cataracts | 18. Candelaria |
| 9. Upper Parana River | 19. Upper Uruguay River |
| 10. Paraguay | 20. Panambi |
| | 21. Brazil |
| | 22. Garabi |

9204

CSO: 5000/2016

BRIEFS

POLLUTION CONTROL MEASURES—A soot collector based on the dry and wet separator system was installed at the Manuel Martinez Prieto Sugar Mill in Havana City. The design is made up of two basic factors: the soot separator and the closed circuit that recovers the 500 gallons of water a minute in the environmental decontamination process. The soot separator has a grate and a curtain of water. When the gas is projected against the grate, the impurities pass into the pipe where they are poured off through treatment with water. In the water filtration and recirculation system, a pump moves the liquid containing the soot and through a filter with waste pulp panels and mesh. The elements are separated and the clean water recirculates. The advantages of this product of the Mechanical Design Enterprise of the Ministry of the Sugar Industry are that it can be installed in the natural draft systems of most sugar mills, resistance to the exit of gases through the chimney is minimal and no induced draft ventilators are needed, making it ideal, compared with other systems, due to the low cost. [Text] [Havana JUVENTUD TECNICA in Spanish Jul 81 p 8] 11,464

CSO: 5000/2017

POLLUTED BEACHES IN CENTRAL LITTORAL CLOSED

Caracas EL NACIONAL in Spanish 29 Oct 81 p D-25

[Text] La Guaira, 28 Oct (Special)—The beaches of the central littoral will remain closed until December because public health and maritime authorities have found that the high level of pollution, which led to their closing, continues to exist.

Port Captain Eleazar Lopez Pinto stated that the level of pollution still present at the beaches is being combatted jointly by the Ministries of Health and Environment, by INOS [National Institute of Sanitation Works], INAM [expansion unknown], and the Port Authority while the municipal and maritime police have been placed on watch.

Last month it was found that the public beaches and the resort areas had deteriorated so alarmingly that the authorities were obliged to close most of those on the central littoral and to notify the private clubs that they must take preventive measures.

"The people," Captain Lopez Pinto said, "have responded to the request that they not use the beaches and although they still come, it is only to enjoy the sun. But in any event, there is a constant police watch."

He says that the cleanliness and maintenance of the beaches entail a sizeable investment. Work is being done with the available resources so that some of the beaches, and possibly the resort of Naiguata, may be opened in December.

He said that it is very difficult to say when the Macuto resort will be reopened to the public because the equipment for pumping sewage is very expensive and it is necessary to replace all of it.

Various private clubs have been forced to install equipment for the treatment of sewage and garbage since it has been discovered that in some places there is only equipment to grind garbage which has then been thrown into the sea.

He acknowledged that work is not being done on the waters along the Catia resort and so it will not be open on the date set for the reopening of some of the beaches.

"It is a rather expensive job and it takes time and money to put the whole central littoral into operation."

He acknowledged that the number of tourists who come to the beaches of the central littoral from the metropolitan area on weekends and holidays had decreased considerably.

He pointed out that "people must understand that what is being done is for the sake of their health and that they will have to wait out the period of 90 days which we allotted ourselves to improve the environmental conditions of the beaches."

This means that Caracans, who are the ones who use the beaches the most, will have to wait the 90 days before returning to them.

9204

CSO: 5000/2018

ARAB CONFERENCE ON HYDROLOGICAL RESOURCES REVIEWED

Rabat L'OPINION in French 3 Oct 81 pp 1, 3

[Article: "Organization of Major Regional Session on Hydrology and Development of Substitute Energies: Development of an Arab-French-English Glossary on Technical Terminology"]

[Text] The Second Arab Conference on Water Resources was held in Rabat from 21 to 24 September, with the participation of 15 Arab countries and several Arab and international organizations and centers.

At the end of this conference, M'hamed Douiri, the minister of equipment and national development, presented a recommendation for the creation of a commission which will meet periodically to follow the application of the recommendations of the Arab conferences and to maintain contacts between the Arab countries between sessions.

The conference adopted several recommendations, relating, among other things, to holding periodic conferences in the Arab countries, organizing a large regional Arab session on hydrology and water resources in coordination with the specialized Arab centers, encouraging the Arab countries to establish and expand vistas in the sciences associated with water resources, as well as awarding grants in the field of studies and research.

The conference also recommended the establishment of a French-Arab glossary on technical terminology in the field of water resources with the collaboration of the Office for Coordination of Arabization in the Arab World which is located in Rabat, just as it recommended calling on the Arab countries and the Arab Center to support the states without sufficient prospects in order to organize specialized administrations for the study and development of water resources.

Establishing an Inventory and Statement of the Plan

The conference also recommended encouraging scientific and technical research in fields associated with water, as well as supporting the existing national and regional centers, if necessary, with a view to offering the scientific and technical base necessary for the creation of an Arab technology consonant with reality and Arab needs. It further recommended appealing to the member countries to increase their efforts in prospecting and searching for subterranean water resources.

In another recommendation the conference called on the member countries to establish an inventory and statement of the plan for water resources and to give all possible attention to study and research in the following fields: the storage of subterranean water by industry, the improvement of sources and the development of maritime sources, remedying the deeply felt lack of terminology relating to water in order to define drinking water and brackish waters in a precise manner, creating and supporting offices of Arab engineers in order to develop studies and projects relating to hydrological works.

Studying the Causes of Erosion

The conference further recommended study of the causes of erosion in each basin and selection of the appropriate techniques for controlling this phenomenon while developing plans on this subject.

The conference also advocated the development of scientific methods of controlling the basins and protecting their soil by planting trees and plants. This would be of great economic and social utility for the residents of the basin.

After emphasizing the necessity of mobilizing human and material resources in order to implement the plans for erosion control, the conference further recommended, with respect to the documentation and collection of data, strengthening the central Arab bank in order for it to become a data bank for water resources.

The participants called on the Arab countries to create similar banks containing data on surface and subterranean water resources.

They urged the authorities responsible for oil and mining prospecting to facilitate access to geological, geophysical and hydrological information on the upper deep water tables, and authorities entrusted with water resources to require the firms working in this field to place adequate information at their disposal.

The conference also urged the Arab countries to furnish recent studies and research on water to the Arab Center for publication and distribution to the Arab countries.

Rationalizing the Development of Resources

With regard to energy, the conference recommended the following:

1. Giving the necessary attention to development of substitute energies and to new and renewable energies, as well as to the field of development of water resources.
2. Better planning for the exploitation of renewable resources.
3. Calling for the creation of an Arab research center with a view to developing Arab technologies with respect to renewable energies and strengthening this center in equipment and human terms in order for it to be able to play its role appropriately.

Concerning the rationalization of the development of water resources, the conference recommended:

--Rationalizing the development of water resources with a view to better use of these resources for the welfare of Arab society, for the realization of its national objectives and, first and foremost, food security. This requires the following:

--In terms of planning:

--Undertaking good planning for the development of water resources in riparian countries, on the national level and on the level of the Arab world. This planning must be based on the principle of complementarity between the development of subterranean and surface waters, on the quantitative as well as qualitative level.

--6. Considering water as an essential factor which dominates the development program.

--Having the representatives of the beneficiaries participate in the phases of planning and implementation and in the operation of equipment in order to make them conscious of their responsibilities with respect to rational use of water and making the people more aware.

Avoiding Waste

2. With respect to legislation:

A--Insisting on the recommendations adopted by the conference on the legislation of water in the Arab world organized by the Arab Center in Damascus between 16 and 19 March 1980.

3--In the field of organization:

A--Emphasizing the establishment of a superior national organization whose responsibility it would be to determine water policy and control its application.

B--Making recommendations to the parties responsible for prospecting, development and administration of water.

4. In terms of developing water resources:

A--Rational mobilization of water resources, taking into consideration, if necessary, transferring waters from one basin to another in light of the socioeconomic needs of the principal basin by taking advantage of the technologies of subterranean and surface water reservoirs.

5. As for economy in the use of water:

A--Determination of needs with respect to water in different fields such as irrigation, industry and domestic and municipal use with a view to avoiding overestimation of supply.

6. Taking into consideration measures capable of preventing waste in the use of water at the level of equipment and exploitation.

C--Working for the re-utilization of water in all sectors, particularly in irrigation and industry.

Protecting the Environment and Water Quality

Protection of the environment and water quality:

A--Undertaking preliminary studies and research on the present state of pollution and the effects of urban, industrial and hydraulic establishments on limiting repercussions on the hydraulic environment and the ecosystem.

B--According particular importance to water quality in developing plans and texts of laws organizing water use.

C--Taking the measures and making the technical arrangements necessary for all stages of use in order to limit pollution and develop a national pollution control program concerning surface waters or waterbearing beds at present.

The legal side:

A--Preserving Arab rights on the regional and international scale and strengthening Arab efforts to consolidate absolute sovereignty over water resources and Arab maritime passages, especially Shatt-al-Arab, which is of vital importance for the Arab Gulf.

B--Consolidation of the Arab right to the Gulf of Syrte.

With respect to the occupied Arab territories, the conference energetically condemns the bellicose project that the Zionist entity is planning to implement, aiming at cutting a canal connecting the Mediterranean to the Dead Sea. It urges the Arab Center to prepare a scientific study on this subject, showing in detail the dangers which could result from this project in order to make Arab citizens aware. It calls on the Arab states to work to stop this project by taking steps with the different international authorities.

The conference reaffirms the recommendations of the Mar del Plata meeting in 1977 denouncing the water policy of the Zionist enemy on the Right Bank of the Jordan and calls on the Arab states to denounce this policy.

The conference called for the project to divert the waters of the Nile to the Sinai and to supply the Zionist enemy with it; this would contribute to the settlement of a great number of problems it is encountering with respect to water resources.

9380

CSO: 5000/5004

BRIEFS

DANGEROUS SHELLFISH--The fishing of "mabanga" [type of shellfish] has become very common in Luanda in recent years. The danger of poisoning is permanent, but it does not seem to frighten some tens (or hundreds) of improvised fishermen who enter the bay daily to fish for such dangerous shellfish. From an environmental point of view, the bay of Luanda is completely contaminated. "Mabanga" can be a very dangerous vector. But the "mabanga" fever continues daily to send many people into the bay, looking in the mud for what can only be prejudicial to the people's health. The competent authorities must take immediate measures to counteract this situation. The health of all those who buy the contaminated "mabanga" the next day at speculative prices all over Luanda is at stake. [Text] [Luanda JORNAL DE ANGOLA in Portuguese 3 Nov 81 p 2]

CSO: 5000/5619

BRIEFS

POLLUTION LAWS—South Africa is years behind Europe and North America in cleaning up air pollution, Mr James Clarke of THE STAR's CARE campaign said in Cape Town this week. The Government's Department of Health is now down to seven air pollution inspectors to police the country's large industries which carry out more than 2,000 strategic processes. "Not enough to even police an average industrial town." Speaking at a National Association for Clean Air seminar, he said the greatest contribution to clean air had been made by householders. Thousands had been fined for lighting bonfires. "But big industry faces fines of only R200 for a first offence and R1,000 for a second. There is a distinct smell of fish in our antipollution laws." He said the nature of emissions from large industries were secret. Some of the gases the public was inhaling were known to be highly dangerous. [Text] [Johannesburg THE STAR in English 30 Oct 81 p 11]

CSG: 5000/5618

U.S. EXHAUST EMISSION LAWS URGED AS MODEL

Stockholm DAGENS NYHETER in Swedish 29 Oct 81 p 34

[Article by Gunilla Wetterlundh]

[Text] The best way to get cleaner air in Stockholm is to introduce advanced emission control systems on the cars corresponding to the requirements in the United States. All the substances known that are emitted with the exhaust fumes would then become substantially reduced, more than for example with cars driven with gas.

Therefore the country should primarily work on getting stricter emission regulations, instead of carrying out a more extensive change over to gas as fuel for cars. This is the opinion of the environment and public health committee stated as a response to a proposal by the Stockholm party. The proposal presents a quick change over to the use of gas for fuel for the country's cars in order to cut down the air pollution.

Experiments have been going on for some time with gas driven country cars. 500 cars will be bought during the next 2 years. SL [the Greater Stockholm Public Transport Company Limited] also has experimental activities with buses that use methanol for fuel and there are plans to introduce two battery-powered buses in traffic. According to the environment and public health committee these experiments have to be carefully evaluated first.

The officials of the board have, however, made some calculations that show how much cleaner the city air can become with the use of alternative fuels and emission control systems respectively.

These calculations show that if all diesel fuel operated vehicles and 30 percent of the gasoline operated passenger cars would use gas for fuel, the result would be a remarkable decline in hydrocarbons, carbon monoxide, lead and dust. There would, on the other hand, be more nitrogen oxides and aldehydes in the air. If methanol would be used for fuel the air quality would also improve. The lead level would, above all, decline by 30 percent, but there would also be a decline in dust and polyaromatic hydrocarbons.

Electricity is also efficient, but it would then have to be introduced not only for buses, but also for most of all other vehicles.

Good Results Obtained with Advanced Exhaust Control

Advanced exhaust control lead to very good results according to the calculations. If 30 percent of the passenger cars in Stockholm would be equipped with advanced emission control systems the level of carbon monoxide and hydrocarbons would decrease by 25 percent, nitrogen oxides by 20 percent and lead by 30 percent.

In order to introduce advanced emission control it would be necessary to have negotiations with the gasoline companies regarding lead-free gasoline. The emission control systems of the cars would also have to be continuously checked and kept intact.

The air in Stockholm has already improved somewhat. Since the lead content of high octane gasoline was lowered in April the lead concentration of the air has also gone down. Hornsgatan is the big exception--there the objectives of the country are regularly exceeded.

9662

CSO: 5000/2014

LAKES NEAR STOCKHOLM SERIOUSLY POLLUTED BY MERCURY

Stockholm DAGENS NYHETER in Swedish 14 Oct 81 p 20

[Article by Tore Allen]

[Text] The lakes of Roslagen seem to resist acidification well despite being so close to Stockholm. Several lakes are, however, in the danger zone with regard to mercury. Blacklisting is threatening several of the pretty little lakes of the Riala area, classified as a region of nationwide interest for outdoor life.

The environment protection unit of the County Council has studied 69 of the 92 lakes of the Riala area. Many of these are forest lakes, low in nutrients, and with very clear water. This type of lake is usually very sensitive to acidification. Despite this the Riala area lakes show, with few exceptions, high pH values.

"The high resistance against acidification is probably connected to the fact that the lime that the inland ice transported from the bay of Gåvle southward over Uppland is still able to neutralize the acidic drop-off," says Par-Olof Danielsson, who has been the leader of the field work and who has put together the investigation report.

Regarding other impurities, for example heavy metals, higher levels have been found than for earlier samples of the forties and fifties, but they are not so high that one could in any way consider the situation alarming. The sulphate level has increased especially, but one does not have to blame that completely on the sooty air of the Stockholm area or deposits from the industries of Western Europe. It may partly be a matter of ground chemical precipitations. The most remarkable result of the study is that the clear and clean Roslagen lakes seem to be very capable of assimilating mercury out of the amounts created in the atmosphere of Western Europe by industries and cars. Pike have been caught, with mercury levels higher than the recommended limit of one milligram per kilogram, from Björndalssjön, a lake for licensed fishing, a clear little pearl, situated in forests and fields. Storsjön and Hersen are two other lakes where the pikes have high levels of mercury.

"We want to emphasize, however, that the very limited study material makes it impossible to draw certain conclusions, states Par-Olof Danielsson. If a pike that weighs half a kilogram has a high level of mercury, it is not certain that all pikes of the same weight do. The larger pikes have also shown very varying levels. It is very expensive to analyze the mercury concentration and we have not been able to afford more than a small number of samples from each lake."

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CSO: 5000/2014

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